



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,229	02/23/2006	Hiroyuki Atake	Q93395	7824
23373	7590	04/28/2009	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			ABRAHAM, AMJAD A	
ART UNIT	PAPER NUMBER			
		1791		
MAIL DATE	DELIVERY MODE			
04/28/2009	PAPER			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,229	Applicant(s) ATAKE, HIROYUKI
	Examiner AMJAD ABRAHAM	Art Unit 1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 February 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-5 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 06 February 2009 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-166/08)
 Paper No(s)/Mail Date 02/23/2006

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Applicant's remarks and amendments, filed on February 17, 2009, have been carefully considered. Claim 5 has been added and claims 1-5 are now pending.

Specification

1. Examiner withdraws the objection to the specification as stated in the previous office action dated November 12, 2008 due to applicant's submission of a new abstract.

Claim Objections

2. Examiner withdraws the objection to the claims as stated in the previous office action dated November 12, 2008.

New Grounds of Rejection:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1791

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. *Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oono et al. (US Pre-Grant Publication 2001/0028129 A1) in view of Kobayashi et al (Japanese Patent Publication JP 09039025A made of record by the applicant).*

4. With respect to claim 1 Oono teaches a foil-decorating injection molding apparatus (See paragraph [0002], an apparatus for forming a pattern onto an article during injection molding) comprising at least a male mold, a female mold (See paragraph [0055] and figure 10 showing part number 1 (male mold) and part number 2 (female mold)), a transport chuck (See paragraph [0057] and figure 10 showing part number 34 (chuck device)) for feeding a decorative sheet between said male mold and said female mold (See paragraph [0057] and figure 10, showing a the chuck device feeding the film between the molds), and a clamper (Suppressing Frame) for pressing and fastening said sheet on a parting surface of said female mold (See paragraph [0069] and figure 7 disclosing a film suppressing frame (part number 32) which compresses the film onto a surface of the female mold. See figure 8 to see the parting surface as the suppressing frame fits within female mold.), wherein: said clamper comprises a pushing frame that abuts on said parting

Art Unit: 1791

surface of said female mold via said decorative sheet when said decorative sheet is pressed and fastened (See paragraph [0070] and figure 8, disclosing a film suppressing frame which is pressed to fit a groove (part 2b). This groove is the parting surface as the frame closes and presses the sheet onto the surface.), and at least one connecting member (sliding rods) connecting said pushing frame (Suppressing frame) and means of driving said pushing frame (See paragraph [0078] and figures 15 and 16, disclosing the suppressing frame which is fixed to two pairs of sliding rods (part number 36) and connected to a reciprocating mechanism to drive the pushing (suppressing) frame.).

- a. Regarding claim 1, Oono does not explicitly teach wherein
 - i. Said transport chuck comprises two clamping devices by which both side edges of said decorative sheet can be clamped.
 - ii. Wherein said clamper is formed in such a shape that, when said pushing frame is in abutment with said parting surface of said female mold, there is established a space between said connecting member and said parting surface in which said clamping devices can pass through.
- b. However, Kobayashi discloses wherein said transport chuck comprises two clamping devices by which both side edges of said decorative sheet can be clamped. (See drawings 2 and 7 showing a decorative sheet feed system that transports the decorative sheet into the mold system by way of a pulley system (transport chuck) as seen in part number 89. In addition, the

grasping parts (clamping devices) as seen in part numbers 88 and 88a

clamp both side edges of the decorative sheet. See [paragraph 0021].

c. With respect to claim 1, the combination of Oono and Kobayashi do not explicitly teach wherein said clamper is formed in such a shape that, when said pushing frame is in abutment with said parting surface of said female mold, there is established a space between said connecting member and said parting surface in which said clamping devices can pass through.

d. However, Kobayashi teaches a space that can contain the clamping means that is formed between a gap in the mold (sheet guide grooves -- 82) and the clamping frame. (See drawing 4 and drawing 6). Also see specifically drawings 8 and 9 showing the abutment of the connecting member (part # 50) with the parting surface of the female mold (Part #30 -- female mold and part # 31a-- the female mold cavity surface). From drawings 8 and 9 when the abutment occurs there is a space between the connecting members (part #50-- clamp) and the female mold cavity surface which contains the grasping means (part #88 which is similar to the clamping devices). This space contains the groove (82) and space which will allow the grasping means to pass through. Drawing 10 shows the clamping device (grasping means) being passed through while the clamper (connecting member) and the parting surface are still in abutment.

iii. It would have been obvious to one having the ordinary skill in the art to modify the mold and the pushing frame to create a space or gap in

order to allow the clamping devices to pass through for the benefit of creating a continuous process in which the clamping devices do not have to be removed prior to mold closing/clamping. This saves operation time and is similar to the problem that is solved in Kobayashi.

- e. Oono and Kobayashi are analogous art because they are from the same field of endeavor which is to simultaneously form and inject a decorated product. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Oono and Kobayashi before him or her, to modify the teachings of Oono to include the teaching of Kobayashi for the benefit of tensioning the decorative sheet prior to introduction into the mold. The motivation for doing so would have been to eliminate wrinkles in the decorative sheet material when the decorative sheet is released prior to mold closure. Therefore, it would have been obvious to combine Oono with Kobayashi to obtain the transport chuck system claimed because a clamping system would have reduced deformed articles and increased quality control.
5. With respect to claim 2 Oono teaches wherein said transport chuck is movable in the direction perpendicular to the direction in which said male mold and said female mold are moved towards or away from each other. (See figure 7 showing part number 34 and 34' which is the transport chuck moving perpendicular to the mold system. See paragraph [0069] disclosing that the chuck device (34) pulls the decorative sheet across the entire female mold.)

f. Regarding claim 2, Oono does not explicitly teach wherein the position of said transport chuck is fixed with respect to said female mold in said direction, and said decorative sheet is fed from a reel fixed to said female mold.

g. However, Kobayashi discloses wherein the position of said transport chuck is fixed with respect to said female mold in said direction, and said decorative sheet is fed from a reel fixed to said female mold. (See paragraph [0026] discussing drawing 1, disclosing wherein the female die (30) is adhered to a movable panel (34). In addition, the decorating sheet feed roll (reel) and the guide rail (transport chuck) move with the female mold. See drawing 6 part 70 for guide rail. Kobayashi clearly discloses a decorative feed system that will move in the same direction as the female mold.)

h. Oono and Kobayashi are analogous art because they are from the same field of endeavor which is to simultaneously form and inject a decorated product. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Oono and Kobayashi before him or her, to modify the teachings of Oono to include the teaching of Kobayashi for the benefit of simultaneously molding an integrally bonded decorative sheet to an injection molded article. The motivation for doing so would have been to eliminate wasted manufacturing time and reduce the space needed for the apparatus to perform the intended work. Therefore, it would have been obvious to combine Oono with Kobayashi to obtain an injection molding system

that simultaneously forms the decorative sheet while injection molding a plastic material.

6. Regarding claim 3, as Oono and Kobayashi remains applied to claim 1, Oono teaches a foil-decorating injection molding method (See paragraph [0009] disclosing a method for forming a pattern onto an article during an injection molding and an apparatus used in that process), said method comprising feeding said decorative sheet between said male mold and said female mold (See paragraph [0015] disclosing the process step of feeding a pattern-bearing film to a molding position between a male mold and a female mold.) by moving said transport chuck with said decorative sheet (See paragraph [0015] disclosing the process step of feeding the pattern-bearing film into and away from the space between said male mold and said female mold. See paragraph [0057] and figure 10, showing a the chuck device feeding the film between the molds.), pressing and fastening said sheet onto said parting surface by said clamer (See paragraph [0015] disclosing the process step of transferring said film to an internal surface of the female mold so as to contact the film with the mold's internal surface. See paragraph [0069] and figure 7 disclosing a film suppressing frame (part number 32) which compresses the film onto a surface of the female mold).

- i. In claim 3 Oono does not explicitly teach wherein (1) the decorative sheets are clamped by the clamping devices of the transport chuck; (2) releasing the grasping of said sheet by said clamping devices while maintaining the pressed

state; (3) and bringing said clamping devices back to their original position through the space between said clamper and said female mold.

j. However, Kobayashi discloses wherein (1) the decorative sheets are clamped by the clamping devices of the transport chuck; (See drawings 2 and 7 showing a decorative sheet feed system that transports the decorative sheet into the mold system by way of a pulley system (transport chuck) as seen in part number 89. In addition, the grasping parts (clamping devices) as seen in part numbers 88 and 88a clamp both side edges of the decorative sheet. See [paragraph 0021].) (2) Releasing the grasping of said sheet by said clamping devices while maintaining the pressed state (See paragraph [0031] disclosing a drive means and a return means for returning the grasping parts (clamping devices) back to original position. See paragraph [0049] disclosing the grasping parts which grasp both ends of a decorating sheet and can be opened and closed.); (3) and bringing said clamping devices back to their original position through the space between said clamper and said female mold. (See drawing 1 and showing a space (guide groove) that allows the clamping device to return back to the original position.)

k. Oono and Kobayashi are analogous art because they are from the same field of endeavor which is to simultaneously form and inject a decorated product. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Oono and Kobayashi

before him or her, to modify the teachings of Oono to include the teaching of Kobayashi for the benefit of creating an optimized injection molding process which allow the clamping system to return to a starting position while the clamping and the injection molding process continues. The motivation for doing so would have been to lower the manufacturing time as the clamping system can be preparing the next sheet to be stamped and molded while the previous article is still being molded. Therefore, it would have been obvious to combine Oono with Kobayashi to obtain the transport chuck system claimed because a clamping system would have decreased manufacturing cycle time.

7. Regarding claim 4, as Oono and Kobayashi remains applied to claim 2, Oono teaches a foil-decorating injection molding method (See paragraph [0009] disclosing a method for forming a pattern onto an article during an injection molding and an apparatus used in that process), said method comprising feeding said decorative sheet between said male mold and said female mold (See paragraph [0015] disclosing the process step of feeding a pattern-bearing film to a molding position between a male mold and a female mold.) by moving said transport chuck with said decorative sheet (See paragraph [0015] disclosing the process step of feeding the pattern-bearing film into and away from the space between said male mold and said female mold. See paragraph [0057] and figure 10, showing a the chuck device feeding the film between the molds.), pressing and fastening said sheet onto said parting surface by said clamper (See paragraph [0015] disclosing the process step of transferring said film to an internal surface of the female mold so

as to contact the film with the mold's internal surface. See paragraph [0069] and figure 7 disclosing a film suppressing frame (part number 32) which compresses the film onto a surface of the female mold).

I. In claim 4 Oono does not explicitly teach wherein (1) the decorative sheets are clamped by the clamping devices of the transport chuck; (2) releasing the grasping of said sheet by said clamping devices while maintaining the pressed state; (3) bringing said clamping devices back to their original position through the space between said clamper and said female mold; and (4) separating said female mold and said female mold while simultaneously feeding a new decorative sheet between said male mold and said female mold by said transport chuck.

m. However, Kobayashi discloses wherein (1) the decorative sheets are clamped by the clamping devices of the transport chuck; (See drawings 2 and 7 showing a decorative sheet feed system that transports the decorative sheet into the mold system by way of a pulley system (transport chuck) as seen in part number 89. In addition, the grasping parts (clamping devices) as seen in part numbers 88 and 88a clamp both side edges of the decorative sheet. See [paragraph 0021].) (2) Releasing the grasping of said sheet by said clamping devices while maintaining the pressed state (See paragraph [0031] disclosing a drive means and a return means for returning the grasping parts (clamping devices) back to original position. See paragraph [0049] disclosing the grasping parts which grasp both ends

of a decorating sheet and can be opened and closed.); (3) bringing said clamping devices back to their original position through the space between said clamper and said female mold. (See drawing 1 and showing a space (guide groove) that allows the clamping device to return back to the original position.) and (4) separating said female mold and said female mold while simultaneously feeding a new decorative sheet between said male mold and said female mold by said transport chuck. (As seen in drawing 5 it is clear that the decorative sheet is to be simultaneously fed throughout the operation of the injection molding process. In addition, see paragraph [0027] and drawing 2, disclosing the molding process using the claimed apparatus. Drawing 2 specifically shows the male mold and female mold being separated and a new decorative sheet being simultaneously being fed by way o the feed system (transport chuck.))

n. Oono and Kobayashi are analogous art because they are from the same field of endeavor which is to simultaneously form and inject a decorated product. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Oono and Kobayashi before him or her, to modify the teachings of Oono to include the teaching of Kobayashi for the benefit of creating an optimized injection molding process which allow the clamping system to return to a starting position while the clamping and the injection molding process continues. The motivation for doing so would have been to lower the manufacturing time as the clamping system can

be preparing the next sheet to be stamped and molded while the previous article is still being molded. Therefore, it would have been obvious to combine Oono with Kobayashi to obtain the transport chuck system claimed because a clamping system would have decreased manufacturing cycle time.

8. With respect to claim 5 Oono teaches a foil-decorating injection molding apparatus (See paragraph [0002], an apparatus for forming a pattern onto an article during injection molding) comprising at least a male mold, a female mold (See paragraph [0055] and figure 10 showing part number 1 (male mold) and part number 2 (female mold), a transport chuck (See paragraph [0057] and figure 10 showing part number 34 (chuck device)) for feeding a decorative sheet between said male mold and said female mold (See paragraph [0057] and figure 10, showing a the chuck device feeding the film between the molds), and a clamper (Suppressing Frame) for pressing and fastening said sheet on a parting surface of said female mold (See paragraph [0069] and figure 7 disclosing a film suppressing frame (part number 32) which compresses the film onto a surface of the female mold. See figure 8 to see the parting surface as the suppressing frame fits within female mold.), wherein: said clamper comprises a pushing frame that abuts on said parting surface of said female mold via said decorative sheet when said decorative sheet is pressed and fastened (See paragraph [0070] and figure 8, disclosing a film suppressing frame which is pressed to fit a groove (part 2b). This groove is the parting surface as the frame closes and presses the sheet onto the surface.), and

at least one connecting member (**sliding rods**) connecting said pushing frame
(Suppressing frame).

- o. Regarding claim 5, Oono does not explicitly teach wherein
 - iv. Said transport chuck comprises two clamping devices by which both side edges of said decorative sheet can be clamped.
 - v. Wherein said clamper is formed in such a shape that, when said pushing frame is in abutment with said parting surface of said female mold, there is established a space between said connecting member and said parting surface in which said clamping devices can pass through.
- p. However, Kobayashi discloses wherein said transport chuck comprises two clamping devices by which both side edges of said decorative sheet can be clamped. **(See drawings 2 and 7 showing a decorative sheet feed system that transports the decorative sheet into the mold system by way of a pulley system (transport chuck) as seen in part number 89. In addition, the grasping parts (clamping devices) as seen in part numbers 88 and 88a clamp both side edges of the decorative sheet. See [paragraph 0021].)**
- q. With respect to claim 5, the combination of Oono and Kobayashi do not explicitly teach wherein said clamper is formed in such a shape that, when said pushing frame is in abutment with said parting surface of said female mold, there is established a space between said connecting member and said parting surface in which said clamping devices can pass through.

r. However, Kobayashi teaches a space that can contain the clamping means that is formed between a gap in the mold (sheet guide grooves -- 82) and the clamping frame. (See drawing 4 and drawing 6). Also see specifically drawings 8 and 9 showing the abutment of the connecting member (part # 50) with the parting surface of the female mold (Part #30 -- female mold and part # 31a-- the female mold cavity surface). From drawings 8 and 9 when the abutment occurs there is a space between the connecting members (part #50-- clamp) and the female mold cavity surface which contains the grasping means (part #88 which is similar to the clamping devices). This space contains the groove (82) and space which will allow the grasping means to pass through. Drawing 10 shows the clamping device (grasping means) being passed through while the clamper (connecting member) and the parting surface are still in abutment.

vi. It would have been obvious to one having the ordinary skill in the art to modify the mold and the pushing frame to create a space or gap in order to allow the clamping devices to pass through for the benefit of creating a continuous process in which the clamping devices do not have to be removed prior to mold closing/clamping. This saves operation time and is similar to the problem that is solved in Kobayashi.

s. Oono and Kobayashi are analogous art because they are from the same field of endeavor which is to simultaneously form and inject a decorated product. At the time of the invention, it would have been obvious to the applicant being

one of ordinary skill in the art, having the teachings of Oono and Kobayashi before him or her, to modify the teachings of Oono to include the teaching of Kobayashi for the benefit of tensioning the decorative sheet prior to introduction into the mold. The motivation for doing so would have been to eliminate wrinkles in the decorative sheet material when the decorative sheet is released prior to mold closure. Therefore, it would have been obvious to combine Oono with Kobayashi to obtain the transport chuck system claimed because a clamping system would have reduced deformed articles and increased quality control.

Response to Arguments

3. Applicant's arguments filed February 6, 2009 have been fully considered but they are not persuasive and/or moot in view of new grounds of rejection.
4. **Applicant's argument:** "That Kobayashi fails to teach wherein said clamper is formed in such a shape that, when said pushing frame is in abutment with said parting surface of said female mold, there is established a space between the connecting member and said parting surface in which said clamping devices can pass through."
5. **Examiner's Response:** Kobayashi teaches a space that can contain the clamping means that is formed between a gap in the mold (sheet guide grooves -- 82) and the clamping frame. (**See drawing 4 and drawing 6.**) Also see specifically drawings 8 and 9 showing the abutment of the connecting member (part # 50) with the parting surface of the female mold (Part #30 -- female mold and part # 31a-- the female

Art Unit: 1791

mold cavity surface). From drawings 8 and 9 when the abutment occurs there is a space between the connecting member (part #50--clamp) and the female mold cavity surface which contains the grasping means (part #88 which is similar to the clamping devices). This space contains the groove (82) and space which will allow the grasping means to pass through. Drawing 10 shows the clamping device (grasping means) being passed through while the clamper (connecting member) and the parting surface are still in abutment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791